

# Freeform Search

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Today's Date: 12/4/2000

| DB Name | <u>Query</u>  | Hit Count | Set Name  |
|---------|---|-----------|-----------|
| USPT    | 12 and 13   | 4         | <u>L4</u> |
| USPT    | (methylpyrazol\$2 or dimethylpyrazol\$2 or aminopyrazol\$2 or tetramethylpyrazol\$2 or pyrazolo\$2) adj5 pyrimidin\$3   | 452       | <u>L3</u> |
| USPT    | ((8/405  8/406  8/407  8/408  8/409  8/410  8/411  8/412  8/414  8/415  8/416  8/421  8/423  8/424  8/425  8/426  8/428  8/429  8/431  8/432  8/433  8/435 )!.CCLS. ) | 1190      | <u>L2</u> |
| USPT    | pyrazolo adj5 pyrimidine  | 174       | <u>L1</u> |

Search History

**Generate Collection** 

L4: Entry 1 of 4

File: USPT

Nov 28, 2000

US-PAT-NO: 6152967

DOCUMENT-IDENTIFIER: US 6152967 A

TITLE: Oxidation dyeing composition for keratin fibres comprising bilirubin

oxidase

DATE-ISSUED: November 28, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/416, 8/421, 8/423

APPL-NO: 9/ 308708

DATE FILED: May 21, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY

APPL-NO

APPL-DATE

FR

97 11822

September 23, 1997

PCT-DATA:

APPL-NO

DATE-FILED

PUB-NO

PUB-DATE

371-DATE

102 (E) -DATE

PCT/FR98/01794 Aug 11, 1998 WO99/15138 Apr 1, 1999 May 21,

1999

May 21, 1999

## Generate Collection

L4: Entry 3 of 4

File: USPT

Aug 8, 2000

US-PAT-NO: 6099590

DOCUMENT-IDENTIFIER: US 6099590 A

TITLE: Oxidation dyeing composition for keratin fibers containing choline oxidase

DATE-ISSUED: August 8, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/411, 8/412

APPL-NO: 9/ 308579

DATE FILED: May 21, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY

APPL-NO

APPL-DATE

FR

97 11823

September 23, 1997

PCT-DATA:

APPL-NO

DATE-FILED

PUB-NO

PUB-DATE 371-DATE

102(E)-DATE

PCT/FR98/01796 Aug 11, 1998 WO99/15140 Apr 1, 1999 May 21,

May 21, 1999



## WEST

### **End of Result Set**

Generate Collection

L4: Entry 4 of 4

File: USPT

Jul 18, 2000

US-PAT-NO: 6090159

DOCUMENT-IDENTIFIER: US 6090159 A

TITLE: Oxidation dyeing composition for keratin fibers containing sarcosine

oxidase

DATE-ISSUED: July 18, 2000

US-CL-CURRENT: 8/401; 8/406, 8/407, 8/408, 8/409, 8/410, 8/411, 8/412

APPL-NO: 9/ 308598

DATE FILED: May 21, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY

APPL-NO

APPL-DATE

FR

97/11824

September 23, 1997

PCT-DATA:

APPL-NO

DATE-FILED

PUB-NO

PUB-DATE

371-DATE 102(E)-DATE

PCT/FR98/01795 Aug 11, 1998 WO99/15139 Apr 1, 1999 May 21, 1999

May 21, 1999

# (FILE 'HOME' ENTERED AT 08:05:05 ON 04 DEC 2000)

|    | FILE 'CAPLU | JS' ENTERED AT 08:05:28 ON 04 DEC 2000                 |
|----|-------------|--|
| L1 | 1947        | SEA (PYRAZOL? OR METHYLPYRAZOL? OR DIMETHYLPYRAZOL? OR |
|    |             | TETRAMETHYLPYRAZOL? OR AMINOPYRAZOL?) (5A) PYRIMIDIN?  |
| L2 | 61660       | SEA HAIR? OR KERATIN?                                  |
| L3 | 489888      | S DYE? OR COLOR? OR COLOUR?                            |
| L4 | 3946        | SEA L2 (3A) L3   |
| L5 | 20          | SEA L1 AND L4  |
|    |             | D IBIB ABS HIT 1-20                                    |
| L6 | 1269        | S PYRAZOLOPYRIMIDIN?                                   |
| L7 | 11          | SEA L4 AND L6  |
| L8 | 0           | SEA L7 NOT L5  |

ANSWER 11 OF 20 CAPLUS COPYRIGHT 2000 ACS ACCESSION NUMBER: 1999:626015 CAPLUS DOCUMENT NUMBER:

Oxidative hair dyes composition TITLE:

131:262496

containing a 3-aminopyridine azo derivatives Lang, Gerard; Cotteret, Jean; Maubru, Mireille

PATENT ASSIGNEE(S): L'Oreal, Fr.

PCT Int. Appl., 37 pp. SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Patent French ' LANGUAGE:

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

INVENTOR (S):

| F      | PATENT NO.             |         |     | KIND DATE |             |     |          |      |                       |               |       |      |      |          |          |      |     |     |
|--------|------------------------|---------|-----|-----------|-------------|-----|----------|------|-----------------------|---------------|-------|------|------|----------|----------|------|-----|-----|
| _<br>W | O 9948465              |         |     |           | A1 19990930 |     |          |      |                       | WO 1999-FR541 |       |      |      |          |          |      |     |     |
|        |                        | W:      | AL, | AM,       | AT,         | AU, | AZ,      | BA,  | BB,                   | BG,           | BR,   | BY,  | CA,  | CH,      | CN,      | CU,  | CZ, | DE, |
|        |                        |         |     |           |             |     |          |      |                       |               |       |      |      |          | IL,      |      |     |     |
|        |                        |         |     |           |             |     |          |      |                       |               |       |      |      |          | MD,      |      |     |     |
|        |                        |         | MW, | MX,       | NO,         | NZ, | PL,      | PT,  | RO,                   | RU,           | SD,   | SE,  | SG,  | SI,      | SK,      | SL,  | ТJ, | TM, |
|        |                        |         |     |           |             |     |          |      |                       |               |       |      |      |          | KG,      |      |     |     |
|        |                        |         | TJ, | TM        |             |     |          |      |                       |               |       |      |      |          |          |      |     |     |
|        |                        | RW:     | GH, | GM,       | KE,         | LS, | MW,      | SD,  | SL,                   | SZ,           | ŪĠ,   | ZW,  | AT,  | BE,      | CH,      | CY,  | DE, | DK, |
|        |                        |         | ES, | FI,       | FR,         | GB, | GR,      | ΙE,  | IT,                   | LU,           | MC,   | NL,  | PT,  | SE,      | BF,      | ВJ,  | CF, | CG, |
|        |                        |         | CI, | CM,       | GA,         | GN, | GW,      | ML,  | MR,                   | NE,           | SN,   | TD,  | TG   |          |          |      |     |     |
| F      | R                      | 2776186 |     |           | A1 19990924 |     |          |      |                       | FR 1998-3454  |       |      |      |          | 19980320 |      |     |     |
| P      | U                      |         |     |           | A.          | 1   | 19991018 |      |                       | AU 1999-27332 |       |      |      |          | 19990311 |      |     |     |
| E      | P                      |         |     | A1 20000  |             |     | 0426     |      | EP 1999-907684        |               |       |      | 4    | 19990311 |          |      |     |     |
|        |                        | R:      | AT, | BE,       | CH,         | DE, | DK,      | ES,  | FR,                   | GB,           | GR,   | IT,  | LI,  | LU,      | NL,      | SE,  | MC, | PT, |
|        |                        |         | ΙE, | FI        |             |     |          |      |                       |               |       |      |      |          |          |      |     |     |
| В      | BR                     | 99048   | 854 |           | A           |     | 2000     | 0718 |                       | Bl            | R 199 | 99-4 | 854  |          | 1999     | 0311 |     |     |
| J      | JP 2000513753          |         |     | T         | T2 20001017 |     |          |      | JP 1999-547835        |               |       |      |      | 19990311 |          |      |     |     |
| PRIORI | PRIORITY APPLN. INFO.: |         |     |           |             |     |          |      | FR 1998-3454 19980320 |               |       |      |      |          |          |      |     |     |
|        |                        |         |     |           |             |     |          |      |                       | W             | 199   | 99-F | R541 |          | 1999     | 0311 |     |     |

MARPAT 131:262496 OTHER SOURCE(S):

An oxidn. dyeing compn. for dyeing keratinous

fibers, and in particular human keratinous fibers such as hair, comprise in a suitably dyeing medium, at least a heterocyclic oxidn. base, and at least a 3-aminopyridine deriv. as direct coloring agent. A hair dye compn. contained dimethylamino-4'-benzene-azo-1':3-pyridine N-oxide 0.5, meta-aminophenol 0.327, 4,5-diamino-1-ethyl-3-Me pyrazole 0.639, and water and excipients q.s. 100. Equal amts. of the compn. is mixed with 20 vol. hydrogen peroxide and applied on the hair, the hair is then rinsed with water, washed with shampoo and dried.

REFERENCE COUNT:

REFERENCE(S):

- (1) Lang, G; US 4025301 A 1977
- (2) Oreal; EP 0850638 A 1998
- (3) Rondeau, C; WO 9739727 A 1997
- (4) Wella Ag; DE 4241173 A 1994
- (5) Wella Ag; EP 0739622 A 1996
- Oxidative hair dyes composition containing a TΙ 3-aminopyridine azo derivatives
- An oxidn. dyeing compn. for dyeing keratinous AB fibers, and in particular human keratinous fibers such as hair, comprise in a suitably dyeing medium, at least a heterocyclic oxidn. base, and at least a 3-aminopyridine deriv. as direct coloring agent. A hair dye compn. contained dimethylamino-4'-benzene-azo-1':3-pyridine

```
N-oxide 0.5, meta-aminophenol 0.327, 4,5-diamino-1-ethyl-3-Me-pyrazole-
           0.639, and water and excipients q.s. 100. Equal amts. of the compn. is mixed with 20 vo hydrogen peroxide and applied the hair, the hair is then rinsed with water, washed with shampoo and dired.
                                                                  the hair, the hair is
           oxidative hair dye aminopyridine azo deriv
      ST
      IT
           Hair preparations
               (dyes, oxidative; oxidative hair dyes
              compn. contg. aminopyridine azo derivs.)
      IT
           Salts, uses
           RL: NUU (Nonbiological use, unclassified); USES (Uses)
               (of peroxy acids; oxidative hair dyes compn. contg.
              aminopyridine azo derivs.)
      ΙT
           Solvents
               (org.; oxidative hair dyes compn. contg.
              aminopyridine azo derivs.)
      ΙT
           Oxidizing agents
               (oxidative hair dyes compn. contg. aminopyridine
              azo derivs.)
      IT
           Enzymes, biological studies
           Peroxy acids
           Peroxysulfates
           RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
           (Uses)
               (oxidative hair dyes compn. contg. aminopyridine
              azo derivs.)
      IT
           Group IIIA element compounds
           RL: NUU (Nonbiological use, unclassified); USES (Uses)
              (perborates; oxidative hair dyes compn. contg.
              aminopyridine azo derivs.)
                                            106-50-3, 1,4-Benzenediamine, biological
      IT
           54-96-6, 3,4-Diaminopyridine
           studies
                      563-69-9, Carbonoperoxoic acid 591-27-5
                                                                    1004-74-6,
                                  1004-75-7
                                               4318-76-7, 2,5-Diaminopyridine
           Pyrimidinetetramine
           16461-98-6, 1H-Pyrazole-3,4-diamine
                                                   28020-38-4, 2,3-Diamino-6-
           methoxypyridine
                              41010-68-8
                                            45514-38-3, 4,5-Diamino-1-methylpyrazole
                        52943-88-1
                                      59405-36-6
                                                    59405-38-8
                                                                  59405-40-2
           46160-00-3
                        59405-44-6
                                                    59405-47-9
                                                                  59405-48-0
           59405-42-4
                                       59405-45-7
                                       59405-61-7
                                                    59405-65-1
                                                                  59405-67-3
           59405-57-1
                        59405-59-3
           59405-69-5
                         131311-66-5
                                       132026-21-2
                                                       145441-19-6
                                                                      184172-85-8
                                         184173-00-0
                                                        184173-01-1
                                                                      184173-02-2
           184172-97-2
                         184172-99-4
                                                       201599-12-4, Pyrazolo
           184173-03-3
                          184173-43-1
                                         184173-45-3
           [1,5-a]pyrimidine-3,7-diamine
                                             201599-14-6
                                                            201599-15-7
           201599-16-8, Pyrazolo[1,5-a]pyrimidine-3,5-diamine
           201599-18-0
                          201599-20-4
                                         201599-21-5
                                                       201599-22-6
                                                                       201599-23-7
                                                        201599-27-1
           201599-24-8
                          201599-25-9
                                         201599-26-0
                                                                      221110-59-4
           232600-96-3
                          244771-80-0
                                         244780-44-7
           RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
           (Uses)
              (oxidative hair dyes compn. contg. aminopyridine
              azo derivs.)
                      7722-84-1, Hydrogen peroxide, uses
           124-43-6
           RL: NUU (Nonbiological use, unclassified); USES (Uses)
              (oxidative hair dyes compn. contg. aminopyridine
```

azo derivs.)

ACCESSION NUMBER: 1999:497038 CAPLUS DOCUMENT NUMBER: 131:120604 TITLE: Preparation of 3-aminopyrazolo[1,5-a] pyrimidines for hair dye compositions INVENTOR (S): Terranova, Eric; Fadli, Aziz; Lagrange, Alain PATENT ASSIGNEE(S): Oreal S. A., Fr. SOURCE: Fr. Demande, 41 pp. CODEN: FRXXBL DOCUMENT TYPE: Patent LANGUAGE: French FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE ---------FR 2771631 A1 19990604 FR 1997-15244 19971203 EP 926149 Al 19990630 EP 1998-402823 19981113 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO JP 11236323 A2 19990831 JP 1998-343445 19981202 JP 3023098 B2 20000321 PRIORITY APPLN. INFO.: FR 1997-15244 19971203 OTHER SOURCE(S): MARPAT 131:120604 3-Aminopyrazolo(1,5-a)pyrimidines are prepd. for use in hair dye compns. Thus, pyrazolo[1,5-a] pyrimidin-3-ylamine-HCl (I) was prepd. by the reaction of malonaldehyde bisdiethylacetal with 4-nitro-2H-pyrazol-3-ylamine-HCl followed by the redn. of the resulting 3-nitropyrazolo[1,5-a]pyrimidine with Zn and NH4Cl in EtOH and further treatment with HCl gas. Thus, a hair dye compn. contained I 0.51, 2-methyl-5-aminophenol 0.37 ans water to 100 g. In addn., this compn. contained ETOH, aq. sodium metabisulfite soln., pentasodium diethylenetriaminopentaacetate, 20% NH3 and water. Preparation of 3-aminopyrazolo[1,5-a]pyrimidines for TΙ hair dye compositions AB 3-Aminopyrazolo(1,5-a)pyrimidines are prepd. for use in hair dye compns. Thus, pyrazolo[1,5-a] pyrimidin-3-ylamine-HCl (I) was prepd. by the reaction of malonaldehyde bisdiethylacetal with 4-nitro-2H-pyrazol-3-ylamine-HCl followed by the redn. of the resulting 3-nitropyrazolo[1,5-a]pyrimidine with Zn and NH4Cl in EtOH and further treatment with HCl gas. Thus, a hair dye compn. contained I 0.51, 2-methyl-5-aminophenol 0.37 ans water to 100 g. In addn., this compn. contained ETOH, ag. metabisulfite soln., pentasodium diethylenetriaminopentaacetate, 20% NH3 ST oxidative hair dye aminopyrazolopyrimidine prepn; pyrazolopyrimidine amine oxidative hair dye prepn IT Hair preparations (dyes, oxidative; prepn. of aminopyrazolopyrimidines for hair dye compns.) IT Amines, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (phenylalkyl; prepn. of aminopyrazolopyrimidines for hair

ANSWER 12 OF 20 CAPLUS COPYRIGHT 2000 ACS

1.5

```
... dye compns.)
IT
     Bromates
     Enzymes, biologi
                        . studies
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
        (prepn. of aminopyrazolopyrimidines for hair dye
        compns.)
IT
               90-15-3, .alpha.-Naphthol
                                            95-55-6, o-Aminophenol
     106-50-3, 1,4-Benzenediamine, biological studies 108-45-2,
     1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol,
     biological studies 123-30-8, p-Aminophenol 124-43-6 533-31-3,
               591-27-5
                         608-25-3 2380-86-1, 1H-Indol-6-ol 2380-94-1,
     Sesamol
     1H-Indol-4-ol
                     2835-95-2, 2-Methyl-5-aminophenol 4344-87-0
                                                                     4664-16-8
     4770-37-0
                 7556-37-8
                             7722-84-1, Hydrogen peroxide, biological studies
                 70643-19-5 81892-72-0
                                           83763-47-7
     55302-96-0
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
        (prepn. of aminopyrazolopyrimidines for hair dye
        compns.)
ΙT
     232600-90-7P
     RL: BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic
     preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
        (prepn. of aminopyrazolopyrimidines for hair dye
        compns.)
     43024-31-3P
                   136548-57-7P 136873-47-7P
ΙT
                                                  232600-78-1P
                                                                 232600-79-2P
     232600-80-5P
                    232600-81-6P
                                   232600-82-7P
                                                   232600-83-8P
                                                                  232600-84-9P
     232600-93-0P, Pyrazolo[1,5-a]pyrimidin-3-amine
                    232600-95-2P
     232600-94-1P
                                   232600-96-3P
                                                  232600-97-4P
                                                                  232600-98-5P
     232601-00-2P
                    232601-01-3P
                                   232601-02-4P
                                                   232601-03-5P
                                                                  232601-04-6P
     232601-05-7P
                    232601-06-8P
     RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL
     (Biological study); PREP (Preparation); USES (Uses)
        (prepn. of aminopyrazolopyrimidines for hair
      dve compns.)
IT
     122-31-6
               123-54-6, Acetylacetone, reactions
                                                      815-57-6,
    3-Methyl-2, 4-pentanedione 1118-71-4, 2,2,6,6-Tetramethyl-3,5-heptanedione 1522-22-1, 1,1,1,5,5,5-Hexafluoro-2,4-pentanedione
                                                    28491-52-3
     5436-21-5, AcetylacetaLdehyde dimethyl acetal
                                                                 31230-17-8,
     3-Amino-5-methylpyrazole 201599-35-1
    RL: RCT (Reactant)
        (prepn. of aminopyrazolopyrimidines for hair dye
        compns.)
IT
     26911-66-0P
                   43024-30-2P 55405-64-6P
                                               90559-15-2P
                                                            232600-85-0P
     232600-86-1P
                    232600-87-2P
                                   232600-88-3P
                                                 232600-89-4P
                                                                  232600-91-8P
     232600-92-9P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
        (prepn. of aminopyrazolopyrimidines for hair dye
```

compns.)

L5ANSWER 13 OF 20 CAPLUS COPYRIGHT 2000 ACS ACCESSION NUMBER: 1999:468550 CAPLUS DOCUMENT NUMBER: 131:120597 TITLE: Keratinous fiber oxidation dyeing composition containing a laccase, and dyeing method using same INVENTOR (S): Lang, Gerard; Cotteret, Jean PATENT ASSIGNEE(S): L'Oreal, Fr. SOURCE: PCT Int. Appl., 30 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: French FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE ---------WO 9936042 A1 19990722 WO 1998-FR2834 19981222 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG FR 2773479 Al 19990716 FR 1998-256 19980113 FR 2773479 В1 20000512 AU 9918816 A1 19990802 AU 1999-18816 19981222 EP 1047384 A1 20001102 EP 1998-963599 19981222 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI PRIORITY APPLN. INFO.: FR 1998-256 19980113 WO 1998-FR2834 19981222 OTHER SOURCE(S): MARPAT 131:120597 The invention concerns a ready-to-use compn. for oxidn. dyeing of keratinous fibers, and in particular human keratinous fibers such as hair, comprising in a suitable dyeing medium, 2-amino-4-N-(.beta.hydroxyethyl)amino anisole as coupling agent and at least an enzyme such as laccase, as well as the dyeing method using said compn. REFERENCE COUNT: REFERENCE(S): (1) Oreal; FR 2694018 A 1994 (2) Perma Sa; EP 0504005 A 1992 (3) Wella Ag; EP 0795313 A 1997 (4) Wella Ag; DE 19647494 C 1998 Keratinous fiber oxidation dyeing composition TΙ containing a laccase, and dyeing method using same AB The invention concerns a ready-to-use compn. for oxidn. dyeing of keratinous fibers, and in particular human keratinous fibers such as hair, comprising in a suitable dyeing medium, 2-amino-4-N-(.beta.hydroxyethyl)amino anisole as coupling agent and at least an enzyme such as laccase, as well as the dyeing method using said compn. SThair dye laccase aminohydroxyethylamino anisole ΙT Hair preparations

(dyes; keratinous fiber oxidn. dyeing

```
compn. contg. a laccase)
IT
     Oxidation
        (enzymic; ker nous fiber oxidn. dyeing compn
        contg. a laccase)
IT
     Hair
        (keratinous fiber oxidn. dyeing compn. contg. a
IT
     Keratins
     RL: BPR (Biological process); PRP (Properties); RCT (Reactant); BIOL
     (Biological study); PROC (Process)
        (keratinous fiber oxidn. dyeing compn. contg. a
        laccase)
IT
     Agaricus bisporus
     Anacardiaceae
     Apple
     Aspergillus nidulans
     Avocado (Persea americana)
     Banana (Musa)
     Botrytis cinerea
     Carrot
     Catharanthus roseus
     Ceriporiopsis subvermispora
     Cerrena unicolor
     Chaetomium thermophilum
     Cladosporium cladosporioides
     Coffee (Coffea)
     Coprinus cinereus
     Dichomitus squalens
     Fomes fomentarius
     Ganoderma lucidum
     Ginkgo biloba
    Glomerella cingulata
    Heterobasidion annosum
    Horse chestnut (Aesculus) '
    Iris (plant)
    Lacquer tree
    Lactarius piperatus
    Maple (Acer pseudoplatanus)
    Monotropa hypopitys
    Myceliophthora thermophila
    Neurospora crassa
    Panaeolus papilionaceus
    Peach (Prunus persica)
    Phellinus noxius
    Pistacia palaestina
    Pleurotus ostreatus
    Podocarpaceae
    Podospora anserina
    Polyporus pinsitus
    Potato (Solanum tuberosum)
    Pyricularia oryzae
    Rhizoctonia solani
    Rigidoporus lignosus
    Rosemary
    Russula delica
    Schizophyllum commune
    Scytalidium
    Thelephora terrestris
    Trametes hirsuta
    Trametes versicolor
    Vinca minor
        (laccases of; keratinous fiber oxidn. dyeing compn.
       contq. a laccase)
                                                                       95-70-5
```

95-55-6, 2-Aminophenol

101-54-2 106-50-3, 1,4-Benzenediamine, biological studies

ΙT

92-65-9

99-98-9

93-05-0

95-55-6D, derivs.

```
-106-50-3D, 1,4-Benzenediamine, derivs. -123-30-8-123-30-8D; ederivs. ---
    148-71-0, 4-Amino N, N-diethyl 3-methylaniline 289-95-2D, Pyrimidine, pyrame derivs. 399-95-1,
    4-Amino-3-fluoropmenol
                            399-96-2, 4-Amino-2-fluorophenol
                                                                 537-65-5
    615-66-7 1630-11-1
                            2359-52-6 2359-53-7 2835-96-3,
                             2835-98-5, 2-Amino-5-methylphenol
                                                                  2835-99-6,
    4-Amino-2-methylphenol
                              5306-96-7, 2,3-Dimethyl-p-phenylenediamine
    4-Amino-3-methylphenol
                             7218-02-2 7575-35-1 14791-78-7 17672-22-9,
    5862-80-6 6393-01-7
                              29785-47-5, 4-Amino-2-methoxymethylphenol
    2-Amino-6-methylphenol
                                            79352-72-0 80467-77-2
    63969-43-7
                 66566-48-1
                               73793-80-3
                                            105607-68-9 110952-46-0
                               105293-89-8
    93841-24-8
                  97902-52-8
                  128729-30-6
                                 128729-31-7
                                               129697-50-3, 5-Acetamido
    126335-43-1
    2-aminophenol 130582-53-5
                                   135855-34-4
                                                 135855-35-5
                                                               168202-61-7
    207568-58-9 221110-58-3
    RL: BAC (Biological activity or effector, except adverse); BUU
(Biological
    use, unclassified); BIOL (Biological study); USES (Uses)
        (keratinous fiber oxidn. dyeing compn. contg. a
        laccase)
    80498-15-3, Laccase
                           197179-33-2, Oramix CG110
    RL: BAC (Biological activity or effector, except adverse); BUU
(Biological
    use, unclassified); PEP (Physical, engineering or chemical process); BIOL
     (Biological study); PROC (Process); USES (Uses)
        (keratinous fiber oxidn. dyeing compn. contg. a
        laccase)
    83763-47-7
IT
    RL: BUU (Biological use, unclassified); PEP (Physical, engineering or
    chemical process); BIOL (Biological study); PROC (Process); USES (Uses)
        (keratinous fiber oxidn. dyeing compn. contg. a
```

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ACCESSION NUMBER:
                         1999:468547 CAPLUS
 DOCUMENT NUMBER:
                          131:120594
 TITLE:
                         Oxidative hair dye compositions
                         containing a laccase and heterocyclic amines
 INVENTOR(S):
                         Lang, Gerard; Cotteret, Jean
 PATENT ASSIGNEE(S):
                         L'Oreal, Fr.
 SOURCE:
                         PCT Int. Appl., 35 pp.
                         CODEN: PIXXD2
 DOCUMENT TYPE:
                          Patent
 LANGUAGE:
                         French
 FAMILY ACC. NUM. COUNT:
 PATENT INFORMATION:
                      KIND DATE
     PATENT NO.
                                         APPLICATION NO. DATE
                            -----
                                           ______
                      A1 19990722 WO 1998-FR2831 19981222
     WO 9936039
         W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
             DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
             KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN,
             MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
             TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
             CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     FR 2773481
                     A1 19990716
                                         FR 1998-258
                                                            19980113
     AU 9918813
                      A1
                            19990802
                                          AU 1999-18813
                                                            19981222
     EP 1047381
                          20001102
                      A1
                                         EP 1998-963596
                                                            19981222
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
PRIORITY APPLN. INFO.:
                                           FR 1998-258
                                                            19980113
                                           WO 1998-FR2831
                                                            19981222
AΒ
     A ready-to-use oxidative hair dye compn. comprises at
     least a heterocyclic amine dye, and at least an enzyme such as laccase.
     Thus, a hair dye compn. contained 2,4,5,6-
     tetraaminopyrimidine sulfate 0.65, resorcinol 0.30, laccase (180 U/mg) of
     Rhus vernicifera 1.8 and water to 100 g. This compn. also contained a
     mixt. of Oramix 4.8 g and EtOH 20.0 g.
REFERENCE COUNT:
REFERENCE(S):
                         (1) Christine, R; WO 9739727 A 1997
                         (2) Lion Corp; JP 09263522 A 1997
                         (3) Novonordisk As; WO 9723685 A 1997
                         (4) Oreal; FR 2694018 A 1994
                         (5) Oreal; EP 0728466 A 1996
                         ALL CITATIONS AVAILABLE IN THE RE FORMAT
     Oxidative hair dye compositions containing a laccase
TI
     and heterocyclic amines
     A ready-to-use oxidative hair dye compn. comprises at
AB
     least a heterocyclic amine dye, and at least an enzyme such as laccase.
     Thus, a hair dye compn. contained 2,4,5,6-
     tetraaminopyrimidine sulfate 0.65, resorcinol 0.30, laccase (180 U/mg) of
    Rhus vernicifera 1.8 and water to 100 g. This compn. also contained a
    mixt. of Oramix 4.8 g and EtOH 20.0 g.
ST
    oxidative hair dye laccase heterocyclic amine
IΤ
    Hair preparations
        (dyes, oxidative; oxidative hair dye
       compns. contg. laccase and heterocyclic amines)
```

ANSWER 14 OF 20 CAPLUS COPYRIGHT 2000 ACS

L5

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IT Amines, biological studies
                                            RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
     (Uses)
        (heterocyclic; oxidative hair dye compns. contq.
        laccase and heterocyclic amines)
IT
     Agaricus bisporus
     Anacardiaceae
     Apple
     Aspergillus nidulans
     Avocado (Persea americana)
     Banana (Musa)
     Botrytis cinerea
     Carrot
     Catharanthus roseus
     Ceriporiopsis subvermispora
     Cerrena unicolor
     Chaetomium thermophilum
     Cladosporium cladosporioides
     Coffee (Coffea)
     Coprinus cinereus
     Dichomitus squalens
     Fomes fomentarius
     Ganoderma lucidum
     Ginkgo biloba
     Glomerella cinqulata
     Heterobasidion annosum
     Horse chestnut (Aesculus)
     Iris (plant)
     Lacquer tree
     Lactarius piperatus
     Maple (Acer pseudoplatanus)
     Monotropa hypopitys
     Myceliophthora thermophila
     Neurospora crassa
     Panaeolus papilionaceus
     Panaeolus sphinctrinus
     Peach (Prunus persica)
     Phellinus noxius
     Pistacia palaestina
     Pleurotus ostreatus
     Podocarpaceae
     Podospora anserina
     Polyporus pinsitus
     Potato (Solanum tuberosum)
     Pyricularia oryzae
     Rhizoctonia solani
     Rigidoporus lignosus
     Rosemary
    Russula delica
     Schizophyllum commune
     Scytalidium
    Thelephora terrestris
    Trametes hirsuta
     Trametes versicolor
    Vinca minor
        (oxidative hair dye compns. contg. laccase and
       heterocyclic amines)
ΙT
    Phenols, biological studies
    RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
     (Uses)
        (oxidative hair dye compns. contq. laccase and
       heterocyclic amines)
IT
    Amines, biological studies
```

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)

```
(phenylalkyl; oxidative hair dye compns. contg.
        laccase and heterocyclic amines)
IT
     35911-20-7
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
     (Uses)
        (Ooxidative hair dye compns. contg. laccase and
        heterocyclic amines)
IT
     95-54-5, o-Phenylenediamine, biological studies
                                                       95-55-6, o-Aminophenol
     106-50-3, 1,4-Benzenediamine, biological studies 108-45-2,
     1,3-Benzenediamine, biological studies 123-30-8, p-Aminophenol
     251-91-2D, 1H-Imidazo[1,2-a]imidazole, derivs. 591-27-5
                                                                10.04-74-6,
     Pyrimidinetetramine 1004-75-7
                                      1672-50-0 2652-77-9
                                                             4331-29-7.
    1H-Benzimidazol-4-amine
                               4701-08-0
                                                      7711-51-5
                                                                  16461-98-6,
                                          6941-70-4
    1H-Pyrazole-3, 4-diamine
                              26011-57-4
                                           26021-57-8
                                                        26438-50-6
    27166-37-6
                 29274-23-5, Pyrazolo[1,5-a]pyrimidin
    -7(4H) -one
                 30569-52-9, 3,6-Dimethylpyrazolo[3,2-c]-1,2,4-triazole
    40038-56-0D, 1H-Pyrrolo[1,2-b][1,2,4]triazole, derivs. 45514-38-3
    46160-00-3
                 49647-58-7, 2,4,5,6-Tetraaminopyrimidine sulfate
51437-33-3
    52057-97-3
                 52943-88-1
                              67021-83-4, 1H-Benzimidazol-4-ol
    72721-02-9
                 80498-15-3, Laccase 81329-90-0 93846-05-0
                                                                94977-60-3
    96013-05-7
                 98488-10-9
                              99056-35-6
                                          101948-27-0
                                                         102169-73-3,
    1H-Benzimidazole-5,6-diol
                                102170-38-7, 1H-Benzimidazole-4,7-diol
    115132-95-1
                  126462-95-1
                                131311-66-5
                                              132026-21-2
                                                            140705-41-5
    151406-76-7
                  151521-74-3
                                157587-56-9
                                              157587-57-0
                                                            157587-58-1
    184172-85-8
                  184172-97-2
                                184172-99-4
                                              184173-00-0
                                                            184173-01-1
   184173-02-2
                  184173-03-3
                                184173-43-1
                                              184173-45-3
                                                            197304-94-2
                  197355-53-6
    197355-52-5
                                197378-53-3
                                              201599-12-4, Pyrazolo
    [1,5-a]pyrimidine-3,7-diamine
                                    201599-14-6
                                                  201599-15-7
    201599-16-8, Pyrazolo[1,5-a]pyrimidine-3,5-diamine
    201599-17-9
                  201599-18-0
                                201599-19-1
                                              201599-20-4
                                                            201599-21-5
    201599-22-6
                  201599-23-7
                                201599-24-8
                                              201599-25-9
                                                            201599-26-0
    201599-27-1
                  217318-25-7, 1H-Pyrazolo[1,5-a]benzimidazol-6-amine
    232598-05-9
    RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
```

(oxidative hair dye compns. contg. laccase and

ANSWER 16 OF 20 CAPLUS COPYRIGHT 2000 ACS ACCESSION NUMBER: 1998:804150 CAPLUS DOCUMENT NUMBER: 130:57002 TITLE: Keratin fiber oxidation dyeing composition containing an oxidoreductase enzyme INVENTOR (S): Maubru, Mireille PATENT ASSIGNEE(S): L'oreal, Fr. SOURCE: PCT Int. Appl., 46 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: French FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE WO 9855083 A1 19981210 WO 1998-FR913 19980506 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG FR 2763841 Al 19981204 FR 1997-6802 19970603 FR 2763841 B1 20000211 AU 9876604 A1 AU 1998-76604 19981221 19980506 EP 988021 A1 20000329 EP 1998-924391 19980506 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI JP 2000513748 **T**2 20001017 JP 1999-501693 19980506 PRIORITY APPLN. INFO.: FR 1997-6802 19970603 WO 1998-FR913 19980506 OTHER SOURCE(S): MARPAT 130:57002 A ready-for-use keratin fiber oxidn. dyeing compn., in particular for human keratin fibers such as hair, comprise, at least a heterocyclic oxidn. dye, at least an oxidoreductase enzyme with 2 electrons in the presence of at least a donor for said enzyme. An oxidative hair dye prepn. contained pyrazolol -[1,5-a]-pyrimidine-3,7-diamine.2HCl 0.666, 2-methyl-5aminophenol 0.369, Uricase 20 IU/mg 0.8, uric acid 1.2, excipients and water q.s. 100 g. The compn. was applied on a gray hair for 30 min, then washed with a shampoo and dried to give a golden iris color. REFERENCE COUNT: REFERENCE(S): (1) Aaslyng, D; WO 9719999 A 1997 (2) Kyowa Hakko Kogyo KK; EP 0310675 A 1989 (3) Masahiro, A; Journal of Organic Chemistry 1996, V61, P5610 (4) Samain, H; WO 9400100 A 1994 (5) Yamahatsu Sangyo Kaisha; EP 0716846 A 1996 ALL CITATIONS AVAILABLE IN THE RE FORMAT TΤ Keratin fiber oxidation dyeing composition containing an oxidoreductase enzyme A ready-for-use keratin fiber oxidn. dyeing compn., in AB particular for human keratin fibers such as hair, comprise, at least a heterocyclic oxidn. dye, at least an oxidoreductase enzyme with 2

electrons in the presence of at least a donor for said enzyme. An

```
oxidative hair dye prepn. contained pyrazolol
     -[1,5-a]-pyrimidine-3,7-diamine.2HCl 0.666, 2-methyl-5-
     aminophenol 0.3 Uricase 20 IU/mg 0.8, uric acide..2, excipients and water q.s. 100 g. The compn. was applied on a gray hair for 30 min, then
     washed with a shampoo and dried to give a golden iris color.
ST
     oxidn hair dye oxidoreductase enzyme
IT
     Coupling agents
     Oxidative hair dyes
     Oxidizing agents
        (keratin fiber oxidn. dyeing compn. contg.
        oxidoreductase enzyme)
ΙT
     Enzymes, biological studies
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
        (keratin fiber oxidn. dyeing compn. contg.
        oxidoreductase enzyme)
     51-17-2D, Benzimidazole, derivs. 95-54-5D, 1,2-Benzenediamine, derivs.
IT
    95-55-6D, derivs. 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D 1,3-Benzenediamine, derivs. 123-30-8D, derivs. 533-31-3D, Sesamol,
               1004-74-6, 2,4,5,6-Tetra-aminopyrimidine
                                                           1004-75-7,
     4-Hydroxy-2,5,6-triaminopyrimidine 2380-84-9, 7-Hydroxyindole
    2380-86-1, 6-Hydroxyindole
                                  2380-94-1, 4-Hydroxyindole
    3131-52-0, 5,6-Dihydroxyindole
                                      4331-29-7, 4-Aminobenzimidazole
    4701-08-0
                 4744-71-2D, 3,5-Pyrazolidinedione, derivs. 4770-37-0,
    6-Hydroxyindoline
                         5192-04-1, 7-Aminoindole 5192-23-4, 4-Aminoindole
    5318-27-4, 6-Aminoindole
                                5735-53-5D, Benzomorpholine, derivs.
    6941-70-4
                 7556-37-8
                             7711-50-4, 4,7-Dimethoxy-benzimidazole
    9002-12-4, Uricase
                          9055-15-6, Oxidoreductase
                                                       15918-79-3,
                       16461-98-6, 1H-Pyrazole-3,4-diamine
    6-Aminoindoline
                                                               19499-83-3
    26011-57-4
                  26021-57-8
                               26438-50-6
                                           29274-23-5, Pyrazolo
    [1,5-a]pyrimidin-7-one
                              29539-03-5, 5,6-Dihydroxyindoline
    35320-67-3, 4-Hydroxy-2-methylindole
                                            45514-38-3, 4,5-Diamino
    1-methylpyrazole 46160-00-3, 5,6-Dimethyl pyrazolo[1,5-a]
                                            52943-88-1
    pyrimidine-3,7-diamine
                              51437-33-3
                                                        67021-83-4,
                              69151-32-2
    4-Hydroxybenzimidazole
                                            72721-02-9, 5,6-Dimethoxy-
    benzimidazole
                     81329-90-0
                                 85926-99-4, 4-Hydroxyindoline
                                                                   93846-05-0
    94977-60-3, 4-Hydroxy-2-methylbenzimidazole
                                                   96013-05-7,
    4-Amino-2-methyl-benzimidazole
                                     101948-27-0
                                                     102169-73-3,
    1H-Benzimidazole-5,6-diol '102170-38-7, 4,7-Dihydroxy-benzimidazole
                  130570-60-4, 6-Hydroxy-1-methylindole 131311-66-5
    126462-95-1
    132026-21-2
                  145594-51-0
                                 151406-76-7
                                              151521-74-3
                                                              157587-56-9
    157587-57-0
                  157587-58-1
                                 184172-85-8
                                                184172-97-2
                                                              184172-99-4
    184173-00-0
                  184173-01-1 184173-02-2
                                               184173-03-3
                                                              184173-43-1
    184173-45-3
                  186963-53-1
                                 186963-54-2
                                               186963-55-3
                                                              186963-56-4
    186963-71-3
                 197304-94-2
                                 197355-52-5
                                               197355-53-6
                                                              201599-12-4,
    Pyrazolo[1,5-a]-pyrimidine-3,7-diamine 201599-14-6,
    2-Methyl pyrazolo[1,5-a]-pyrimidine-3,7-diamine
    201599-15-7, 2,5-Dimethylpyrazolo[1,5-a]pyrimidine
                   201599-16-8, Pyrazolo[1,5-a]pyrimidine 201599-17-9, 2,7-Dimethyl pyrazolo[1,5-a]
    -3,7-diamine
   -3,5-diamine
   pyrimidine-3,5-diamine
                            201599-18-0, 3-Aminopyrazolo
    [1,5-a]pyrimidin-7-ol
                            201599-19-1, 3-Amino 5-methyl
   pyrazolo[1,5-a]pyrimidin-7-ol
                                     201599-20-4, 3-Amino
   pyrazolo[1,5-a]pyrimidin-5-ol
                                     201599-21-5, 2-(3-Amino
   pyrazolo[1,5-a]pyrimidin-7-ylamino)-ethanol
   201599-22-6, 3-Amino-7-.beta.-hydroxyethylamino-5-methylpyrazolo
   [1,5-a]pyrimidine 201599-23-7, 2-(7-Amino pyrazolo
   [1,5-a]pyrimidin-3-ylamino)-ethanol
                                          201599-24-8, 2-[(3-Amino-
   pyrazolo[1,5-a]pyrimidin-7-yl)-(2-hydroxyethyl)-amino-
             201599-25-9, 2-[(7-Amino-pyrazolo[1,5-a]
   pyrimidin-3-yl)-(2-hydroxyethyl)-amino]-ethanol
                                                       201599-26-0,
   2,6-Dimethyl pyrazolo[1,5-a]pyrimidine-3,7-diamine
   201599-27-1
                 217318-23-5
                                217318-24-6
                                               217318-25-7,
   1H-Pyrazolo[1,5-a]benzimidazol-6-amine
                                              217318-26-8
                                                             217318-27-9
   217318-28-0 217318-29-1 217318-30-4
                                             217318-31-5
```

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(keratin fibe pxidn. dyeing compn. contg. oxidoreductas enzyme)

ANSWER 17 OF 20 CAPLUS COPYRIGHT 2000 ACS ACCESSION NUMBER: 1998:766502 CAPLUS DOCUMENT NUMBER: 130:29064 TITLE: Composition for dyeing keratin fibers comprising a pyrazolin-4,5-dione and an aromatic primary amine INVENTOR(S): Vidal, Laurent; Malle, Gerard; Maubru, Mireille PATENT ASSIGNEE(S): L'Oreal, Fr. SOURCE: PCT Int. Appl., 43 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent. LANGUAGE: French FAMILY ACC. NUM. COUNT: PATENT INFORMATION: PATENT NO. KIND DATE APPLICATION NO. DATE \_\_\_\_\_ ----------WO 9851268 Al 19981119 WO 1998-FR619 19980326 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG FR 2763241 Al 19981120 FR 1997-5843 19970513 FR 2763241 В1 19990702 AU 9870521 A1 19981208 AU 1998-70521 19980326 EP 981320 EP 1998-917247 A1 20000301 19980326 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI JP 2000512314 Т2 20000919 JP 1998-548850 19980326 PRIORITY APPLN. INFO.: FR 1997-5843 19970513 WO 1998-FR619 19980326 OTHER SOURCE(S): MARPAT 130:29064 A compn. for dyeing keratin fibers, in particular human keratin fibers such as hair comprising at least one pyrazolin-4,5-dione (Markush structure given) and at least one arom. primary amine. Said compn. enables the dyeing of keratin fibers without an oxidizing agent in shades which are strong, varied, resistant and less selective than those of prior art. The invention also concerns dyeing methods and devices using said compn. A hair dye compn. contained 3-methyl-1-phenylpyrazolin-4,5dione 0.940, paraphenylenedimaine 0.540, Et alc. 40.0, citric acid q.s. рН = 2, and water q.s. 100.0 q. REFERENCE COUNT: REFERENCE(S): (1) Berth, P; US 3820948 A 1974 CAPLUS (2) L'Oreal; WO 9735842 A 1997 (3) Therachemie; FR 1488169 A 1967 (4) Wella; DE 4422603 A 1996 ΤI Composition for dyeing keratin fibers comprising a pyrazolin-4,5-dione and an aromatic primary amine AB A compn. for dyeing keratin fibers, in particular human keratin fibers such as hair comprising at least one pyrazolin-4,5-dione (Markush structure given) and at least one arom.

```
primary amine. Said compn. enables the dyeing of
     keratin fibers without an oxidizing agent in shades which are strong, varied, sistant and less selective that hose of pro-
                                                          hose of prior art.
The
     invention also concerns dyeing methods and devices using said compn.
     hair dye compn. contained 3-methyl-1-phenylpyrazolin-4,5-
     dione 0.940, paraphenylenedimaine 0.540, Et alc. 40.0, citric acid q.s.
рН
     = 2, and water q.s. 100.0 g.
ST
     hair dye pyrazolindione arom amine
ΙT
     Hair dyes
     Organic solvents
        (compn. for dyeing keratin fibers comprising
        pyrazolindione and arom. primary amine)
     Alcohols, biological studies
     Aromatic amines
     Glycol ethers
     Glycols, biological studies
     RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
        (compn. for dyeing keratin fibers comprising
        pyrazolindione and arom. primary amine)
     62-53-3D, Aniline, derivs. 95-55-6
IΤ
                                             95-70-5
                                                       106-50-3,
     1,4-Benzenediamine, biological studies
                                               123-30-8
                                                          399-95-1
                                                                      452-58-4,
     2,3-Pyridinediamine 615-66-7
                                      881-05-0 1004-76-8 1630-11-1
     2835-96-3
                 2835-98-5
                             2835-99-6 3240-72-0
                                                     4592-60-3
                                                                 4734-73-0
     5306-96-7
                 13795-02-3
                              16461-98-6, 1H-Pyrazole-3,4-diamine
                                                                     17672-22-9
    29785-47-5
                  45514-38-3
                               49714-81-0
                                             51942-09-7
                                                          52605-79-5
    59056-57-4
                  62349-56-8
                               62349-59-1
                                             63886-74-8
                                                          66566-48-1
    66583-86-6
                  69151-32-2
                               76368-87-1
                                             79352-72-0
                                                          93841-24-8
    96886-30-5
                  97902-52-8
                               104333-09-7
                                             110952-46-0
                                                            126335-43-1
    129697-50-3
                  155601-16-4
                                 160950-38-9
                                                168202-61-7
                                                              184172-86-9
    184172-97-2
                   184172-99-4
                                 184173-43-1
                                               197651-70-0
                                                              197651-76-6
    197651-78-8
                   197651-80-2
                                 197651-86-8
                                               197651-88-0
                                                              197651-92-6
    197651-94-8
                   197651-95-9
                                 197651-97-1
                                               197651-99-3
                                                              197652-01-0
    197652-03-2
                   197652-05-4
                                 197652-07-6
                                               197652-14-5
                                                              197652-16-7
    197652-18-9
                  197652-20-3
                                 197652-22-5
                                               197652-24-7
                                                              197652-26-9
    197652-28-1
                  197652-30-5
                                 197652-32-7
                                               197652-34-9
                                                              197652-36-1
    197652-39-4
                  199340-99-3
                                 201599-07-7
                                               201599-12-4, Pyrazolo
    [1,5-a]pyrimidine-3,7-diamine
                                     207568-58-9
                                                   216319-92-5
    216320-73-9
                  216320-74-0
                                 216320-76-2
                                               216320-78-4
                                                              216320-80-8
    216320-82-0
                  216320-84-2
                                 216320-85-3
                                               216320-86-4
                                                             216320-87-5
    216321-12-9
    RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
    (Uses)
       (compn. for dyeing keratin fibers comprising
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pyrazolindione and arom. primary amine)